DOCUMENT RESUME

ED 189 872 FL 011 534

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TITLE Research Studies on the Approaches to Beginning Reading for Bilingual Students.
PUB DATE 79
NOTE 75p.

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Bilingual Education: *Bilingualism: English (Second Language): Language Research: Literacy Education: Literature Reviews: *Native Language Instruction: *Reading Research: *Second Language Instruction: Teaching Methods

ABSTRACT

This survey of research on bilingualism focuses on a controversy over methods for teaching reading, namely, should non-readers achieve literacy in their native language before learning to read a second language? As a report of the results of various studies shows, both proponents of prior native language literacy and proponents of prior second language literacy have much evidence to support their views. It is concluded that social, economic, and political issues have been the confounding factors in determining which is the more desirable precedence. The experimental design of a number of studies is also called into question. It is concluded that further research must be conducted with firm control of variables in order to determine if one method is in fact superior to the other. A compilation of studies on the subject of reading alternatives for bilingual students and a bibliography are appended. (JB)

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RESEARCH STUDIES ON THE APPROACHES TO BEGINNING READING FOR BILINGUAL STUDENTS

By

Maria Lombardo

1979

FL011534

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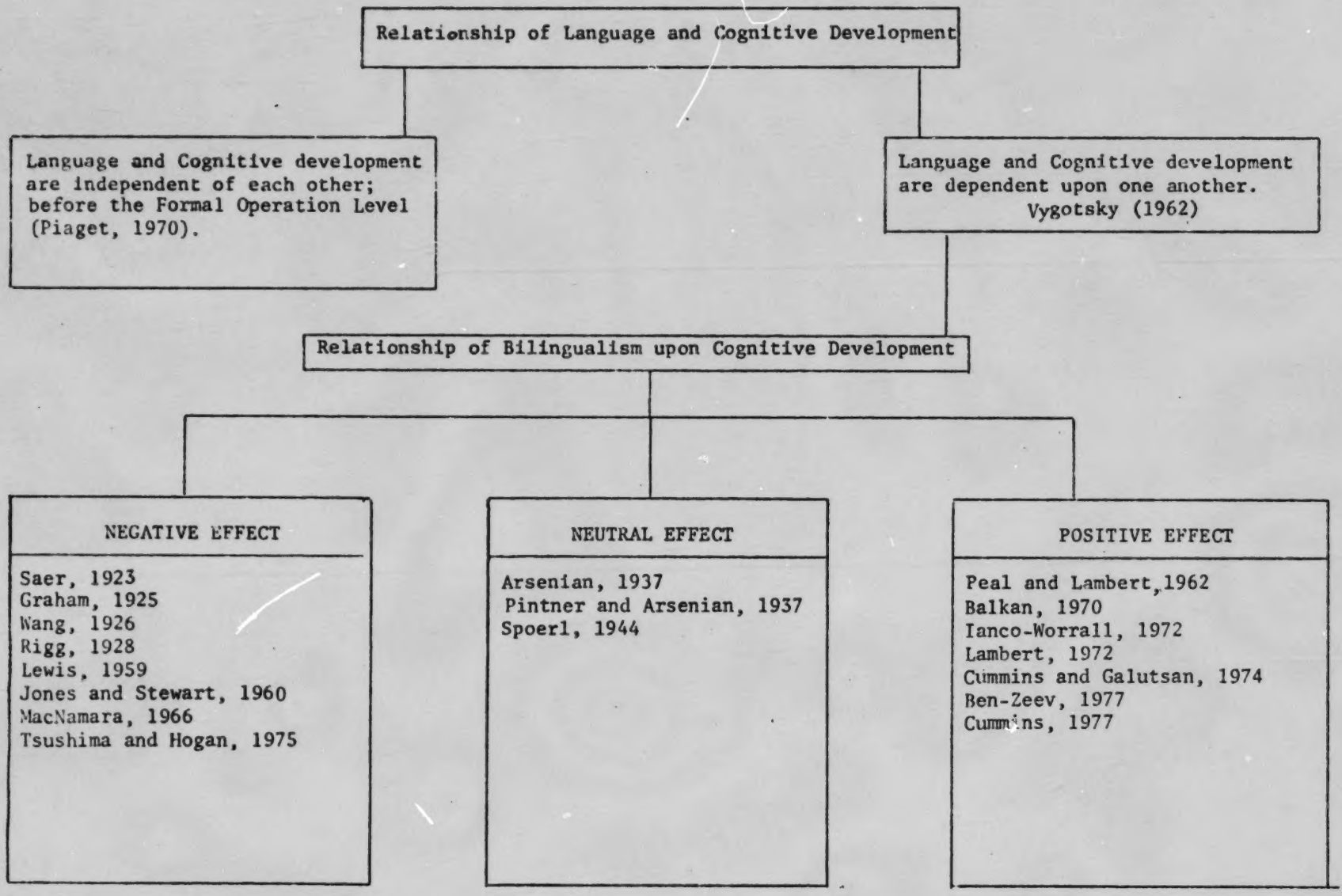
The Effects of Bilingualism Upon the Learner

A world wide concern has centered on the issue of what effects bilingualism (the learning of the native (L1) and a second (L2) language) has upon the individual. Sociolinguists, linguists and educators have attempted to address this issue by examining the psychological and linguistic outcomes of the bilingual. Based on Vygotsky's (1962) notion that language is related to cognitive development, researchers (Figure 1) have examined bilingualism's effect on cognitive development.

Early studies in the 1920's (Saer, 1923; Graham, 1925; Wang, 1926; Rigg, 1928) and several later studies (Lewis, 1959; Jones and Stewart, 1960; MacNamara, 1966; Tsushima and Hogan, 1975) have indicated negative results. However, Cummins (1977) attributes these negative results to non-stringent control of experimental variables such as SES, SS's degree of language fluency, and instrumentation between control and experimental groups. Other studies have indicated no correlation between bilingualism and cognitive development (Arsenian, 1937; Pintner and Arsenian, 1937; Spoerl, 1944). The issue has then remained controversial until more recent studies (Peal and Lambert, 1962; Balkan, 1970; Ianco-Worrall, 1972; Lambert, 1972, Cummins and Galutsan, 1974; Ben-Zeev, 1977; and Cummins, 1977) have demonstrated positive results, with bilingual students surpassing monolinguals in verbal and non-verbal intelligence measures. Cummins (1977) has hypothesized that these positive findings are a result of controlled language variables. In each case bilinguals had reached

Figure 1

STUDIES ON THE LANGUAGE (L_1, L_2) AND COGNITIVE DEVELOPMENT OF BILINGUALS



a treshhold level and were balanced in both languages (Cummins, 1977). Thus only when this level is reached can bilingualism positively effect cognitive development.

Another explanation offered for the discrepancies in studies dealing with bilingualism and cognitive development is the fact that in some cases becoming bilingual indicated that the native language had to be disposed. Thus, the result was a "subtractive situation" in an environment where L_2 was the majority more prestigious language and where L_1 was the minority less prestigious language. In this case, Ss paid dearly in the acquisition of L_2 by becoming retarded in L_1 and L_2. Whereas, on the other hand, when the Ss's native language was prestigious they acquired L_2 and did not suffer cognitive and language deficits as a result (MacNamara, 1966). Conclusively, then it appears that it was not language per se that retarded or accelerated the cognitive development of bilinguals, but rather it was the status of the languages (L_1 and L_2) in the Ss's community and their attitude toward themselves and the languages involved and the variables that went along with language that accounted for the negative, neutral, and positive results. When these variables were controlled, bilinguals surpassed monolinguals on both verbal and non-verbal intelligence measures.

Oral and Written Language of the Bilingual

Assuming that language is one of the many symbolic channels that may affect cognitive development more so at the later Formal Operational Stage when the individual learns to abstract (Piaget, 1970), it stands

to reason that if language instruction is facilitated for bilinguals then their cognitive development will also be enhanced. In order to address this issue researchers (Taylor, 1969; Ingram, 1974) have noted that language development which in turn effects cognitive development comes from Ss's ability to comprehend oral and written language (Bradley, 1970; Smith, 1971; Carline and Hoffman, 1976; Deosoran and Gersham, 1976; and Ruddell, 1976). This, of course, is usually no problem for the monolingual whose oral language and internal cognitive network matches the print he is about to confront. In most cases s/he learns decoding strategies (Gough, 1972; LaBerge and Samuels, 1974; and Rumelhart, 1976) and thus ciphers the print and comprehends. This process is facilitated by the fact the subject has a deep structural representation of the language (Fillmore, 1968) and s/he has a model of the world (Ingram, 1974) that s/he is to confront in print, thus from his oral language knowledge s/he makes predictions (Goodman, 1976) in the text.

In acknowledging the notion that oral and written language are related (Loban, 1963; Chastain, 1976; Goodman, 1976) what happens in the case of native speakers who are confronted with a second language, which has a different linguistic structure and is based on a different model of the world. The result is that Ss become frustrated as they continually predict the syntax and semantics of the L_2 language based on those of their L_1 language (Garcia, 1977). Although the notion of having Ss undergo this process seems futile, this has been the case of

non-English speakers in the U.S. before bilingual education (Title VII Bilingual Education Act, 1968). It was no wonder that there was an extremely high drop-out rate (U.S. Commission on Civil Rights: Unfinished Education, 1972) and Kobrick (1972) reported that only four Puerto Rican students had graduated from the Boston Public Schools in 1965. However, with legislative developments (1968 Bilingual Education Act) non-English speakers have received assistance. Since Lau vs Nichols, (1974) and the Lau Remedies of 1975, guidelines have been structured that compel school systems to assess the language dominance of non-English speakers and if it is other than English (Categories A, B, C, Office of Civil Rights, 1975) students must receive adequate instruction in L1, then in L2 in order to help them become mainstreamed and competitive in an all English environment. More recent legislation, (Educational Amendments of 1978), also emphasized language as the factor in permitting non-English speakers to achieve. Although certainly a step in the right direction in helping non-English speakers become literate, the law favors transitional rather than maintenance bilingual programs, with the ultimate goal being that the non-English speakers be mainstreamed into an all English curriculum. With this notion in mind the problem that arises is what is the best method for helping non-English speakers become literate in English?

Reading Alternatives for the Bilingual

Suggestions, which are world-wide, center around the issue of

whether reading should be taught in the native language (L1) with Ss then transferring skills to the second language (L2) (Orata, 1953; Modiano, 1968); whether the student should be immediately immersed in L2 (Lambert and Tucker, 1972; Barik and Swain, 1974); whether L1 and L2 should be a simultaneous process (Hartwig, 1971; Mackey, 1972; Cohen, 1974); or whether there is no difference between the teaching of reading in L1 or L2 first (Engles, 1975; Cziko, 1976). (Table 1)

Before attempting to show favoritism of one method over another the research literature addressing each of the issues must be reviewed, and the factors that differentiated one method over another must also be examined.

Proponents of the L1 to L2 method have emphasized the attaining of literacy in the native language first, because they contend that an individual becomes literate only once and this process should occur in the language that the S is most familiar with (L1). It seems that reading achievement was affected by learning L_1 first rather than going directly to L2. The rationale is that Ss tend to learn and remember that which has meaning to them (Smith and Dechant, 1961; Piaget, 1970).

Studies have concerned themselves with the effects of learning to read in L1 before L2 on cognitive and language development. Colombani (1977) emphasized that for this method to be effective one must go a step further and teach pre-reading or readiness skills in

Table 1

Reading Instruction Alternatives for Bilingual Students

	$(L_1 \rightarrow L_2)$[a]		L_2 Immersion	
	(Native Language)	(Second Language)	$(L_2 \rightarrow L_1)$[b]	$(L_2 \rightarrow L_2)$[c]
Studies				
	F Arnold, 1968	S Modiano, 1968	F Barik, Swain & McTavish, 1974	S Bradley, 1970
	S Burns, D., 1968	S Orata, 1953	F Bezanson & Hawkes, 1976	S Carline & Hoffman, 1976
	S Burns, N., 1970	S Pryor, 1968	S Cohen, 1974. Culver City	I Deosaran & Gersham, 1976
	S Castro de la Fuente, 1961	S Ratto, 1955	S Davis, 1967	S Pauk, 1968
	S Dube & Hebert, 1975	S Rosier & Farella, 1976	S Department of Educ. Manila, 1953	
	S Ehrlich, 1971	S Taylor, 1969	S Lambert & Tucker, 1972	
	I Hillerich & Thorn, 1969	I USAID (cited in Gudschinsky, 1967)	S McNamara, 1966	
	E Inclan, 1971	S Vasquez & Barrera, 1953	S Revil, et. al., 1968	
	E John & Horner, 1971	S Wise, 1969	S Strum, 1976	
Totals				
	[d]S = 13, [e]E = 2, [f]I = 2, [g]F = 1		S = 7, E = 0, I = 0, F = 2	S = 3, E = 0, F = 0, I = 1
Supporters				
	Blossom, 1970	Hatch, 1974	Bowen, 1969	
	Colombani, 1977	Herbert, 1972		
	Downing, 1978	Ingram, 1974		
	Gudschinsky, 1977	Texas Educ. Agency, 1976		
		UNESCO, 1953		

[a] Reading in L_1, transfer skills to L_2.
[b] Reading in L_2, transfer skills to L_1.
[c] Reading in L_2, continue skills in L_2.
[d] Successful.
[e] Equal.
[f] Inconclusive.
[g] Failure.

Table 1 (Continued)

Reading Instruction Alternatives for Bilingual Students

$(L_1 + L_2)^a$	$(L_1 \longrightarrow L_2$ vs. $L_2 + L_1)^b$
Studies	
I Cohen, 1975, Redwood City	* Barik & Swain, 1974[c]
S Goodman & Stern, 1971	+ Cowan & Zohreh, 1976[d]
E Hartwig, 1971	# Cziko, 1976 [e]
I Mackey, 1972	
S Malherbe, 1946	
I San Francisco U.S.D., 1974	
S Trevino, 1968	
Totals	
S = 3 I = 3	
E = 1 F = 1	
Supporters	
Bowen, 1969	Cohen, Frier & Flores, 1973
Lambert, 1972	Engles, 1975
Stern, 1973	Ramos, et.al., 1967

[a] Students are taught to read in the native language (L_1) and second language (L_2) simultaneously.

[b] A comparison between the (L_1 L_2) and the (L_1 + L_2).

[c] The $L_2 \rightarrow L_1$ method is better.

[d] Monolinguals performed better than bilinguals.

[e] There is no difference between the two methods.

the Ss's dialect and standard L_1, before attempting to teach him/her to read in L_1. Research conducted in Peru (Ratto, 1955; Burns, D., 1968; Wise, 1969 and Burns, N., 1970) found that when Ss learned to read in their Indian Language (L_1) they transferred skills to (L_2) and the drop-out rate of students was decreased. Mexican studies (Vasquez-Barrera, 1953; Castro de la Fuente, 1961; and Modiano, 1968) and a Philippine study (Orata, 1953), found similar positive results. In addition USAID (1967) found that there was increased enrollment when students were taught in their (L_1) Highland language before (L_2) Vietnamese.

When examining the U.S. studies on the existing bilingual programs results varied. For the Harlandale School District in San Antonio, Texas, Pryor (1968) found that Mexican-American students learning to read in L1 (Spanish) first performed as well as the control group that received all L_2 (English) instruction. Whereas, Arnold (1968), Taylor (1969) and John and Horner (1971) found that the students receiving L_1 first performed slightly better than the control group in reading achievement in English.

For the Dade County Program in Florida, Inclán (1971) found that Cuban students receiving L_1 then L_2 (almost simultaneously) and Anglo subjects receiving English and Spanish performed as well in English reading as subjects immersed in L_2 (English). Cancela (1971) attributed the success of the program to equal representation of both language groups.

When Rosier and Farella (1976) studied the reading achievement

of Navajo students instructed in L1 before English (L2) at Rock Point, Arizona, they found that the reading ability of these students was only .5 years below the national norm whereas the Navajo Ss, who were totally immersed in L2 (English) were functioning 2.1 years below the national norms.

In Madawaska, Maine, Dube and Herbert (1975) found that native French speakers, who were instructed initially in French, and continued 1/3 of their curriculum in French for five years performed better in English language skills, content area (math) and grade placement than students immersed in English.

Ehrlich (1971) studied Ss in New York City, who received reading instruction in Spanish and then English in comparison to a group, who was directly immersed in English and found that the L1 to L2 group performed better in English than the control group. Golub (1978) found similar results with his Hispanic students in Pennsylvania and added that his Ss performed better in English than Spanish because they found it functionally necessary to learn English. From a study conducted with Mexican-Americans in Corpus Christi, Texas, Hillerich and Thorn (1969) reported that the transition from Spanish to English appeared to be a natural process.

Other proponents of L1 reading before L2 reading (Blossom, 1970; Gudschinsky, 1971; Herbert, 1972; Hatch, 1974; and the Texas Education Agency, 1976) have advocated the initial use of L1 in order to minimize the cultural shock that Ss encounter upon entering

L2 schools. Still others (UNESCO, 1953; Spolsky and Cooper, 1969; Fishman, 1972; Gardner and Lambert, 1972), claim that learning in L1 first helps the Ss develop a positive self-attitude and it motivates them to learn a second language. This is extremely crucial since attitudinal-motivational factors correlated with reading achievement (Gardner and Lambert, 1959). In fact, "... the attitude of a child towards his language and social context are of critical importance in his intellectual and affective development", (P. 127). (National Puerto Rican Development and Training Center, 1973).

More recent research Downing (1978) states that in his "...own comparison of learning to read in fourteen countries found that a frequent cause of reading problems is using a different language of instruction from the child's mother tongue.", p. 131. He goes on with a stronger argument that if "... there is a mismatch between the child's language and the language of instruction massive confusion arises and serious retardation is likely to occur in the development of literacy skills.", p. 131.

It appears that instructing a S to read in L1 before attempting to read in L2 is a sound notion because the S can match his oral language and model of the world to print and thus he learns to read more easily, which in turn develops his self-concept and motivates him to learn not only L1 but L2 as well. The issue seems resolved until one examines studies that immersed L1 Ss into L2 for initial

reading instruction. As Bowen, (1969) points out ".... what really confirms for ...(him) the thesis of the choice of language to be used as a medium of instruction is not the determining factor of pedagogical success, it is the availability of counter-evidence, experiments where students studying in a second language matched or excelled over those studying in their mother tongue.", p. 111.

In Canada, Lambert and Tucker (1972) and Barik, Swain and McTavish (1974) found that when students from English (L1) were totally immersed in French (L2) for the first several years of school and were later taught in English for several hours per day the students performed better in L2 than (L_2) monolinguals and performed as well as (L_1) monolinguals. In the Philippines, the Department of Education, Manila (1953); Davis, (1967); and Revil et. al., (1968) found that when subjects were immersed in L_2 (English) and later taught Philipino as a subject performed better in L_2 than subjects who were taught Tagalog (L_1) before (L_2). MacNamara (1966) in Ireland, and Bezanson and Hawkes (1976) in Ghana also found that the immersion groups who were immediately instructed in L2 were superior in reading and language to the Ss, who were instructed in L_1 then L_2. In the United States, Cohen (1974) found that when Anglo Ss were immersed in Spanish they performed better in reading than control groups (Anglos receiving all English instruction, and Hispanic students receiving all English (L_2) instruction). Strum (1976) found that high school drop-outs in New York City , who were

immersed in L2 (English) could not only perform successfully in L2, but could also transfer skills to L1.

Although the mentioned results are positive for Ss immersed in L2, previous surveys for the United States indicated negative results when non-English speakers were immersed into English (L2), (Coleman, 1966; "Task Force on Children Out of School", 1970; Lau vs. Nichols, 1974). The reason, assuming that all variables were controlled and Ss had received oral/aural instruction in (L2) in order to read (L2), may be that: in the Canadian, Ghanian, Irish and American (Anglo Study) Ss were from a dominant prestigious L1 learning L2 . Other essential reasons were: politics in Canada; in Ghana it was necessary to learn L2 (English) because all written matter was in English; in the Philippines higher education is in English thus making it necessary to learn it; and in the United States it was prestigious for Anglos to learn Spanish. In each case Ss's L1 is the national language and they are secure in that they will not lose it, in other words, a subtractive situation will not occur. In the case of Lambert and Tucker (1972) Ss had familial support in their education and they knew they would eventually receive instruction in their L1, thus their concept and attitude was not affected by L2 instruction.

In the case of the United States, the reason that L2 submersion has not worked "is not a matter of language -- either of mother tongue or medium of instruction," p. 114-115, but Bowen (1969) continues, "I submit that this problem is related to the overall

problem of status..." p. 116. In addition "....status -- is one explanation for the limited performance of minority -- language students but there are others.", p. 115, (Bowen, 1969).

The other factors may be that in the United States submersion programs non-English speakers found it necessary to put aside and even forget their native language and learn English as quickly as possible for economic reasons, whereas, the studies mentioned did not have to contend with this problem, because Ss could function with just L1. Also Ss in these studies were from middle classes usually, whereas in the United States they were from low socio-economic classes.

At this point the linguistic issue becomes obscured by social, economic and political issues, however, these have been the confounding factors in determining whether L1 should precede L2 or L2 taught immediately. Given appropriate environmental conditions it seems that either method is successful. However, before accepting either method, further studies must be examined that assessed programs utilizing L1 and L2 simultaneously.

Malherbe (1946) noted that his Ss in South Africa achieved the greatest degree of bilingualism in Afrikaan and English when they were from bilingual homes or English homes. These bilingual Ss were more advanced in content than their monolingual counterparts. Other successful results of simultaneous L1 and L2 instruction in reading were found in the United States by Trevino (1968) for the Webb County,

Texas Program and Goodman and Stern (1971) for the Compton, California Program. Yet, other studies revealed inconclusive results: Cohen (1975) for the Redwood City Program in California; and the San Francisco Unified School District (1974) in California. Another study Hartwig (1971) of the Sacramento, California Bilingual Program revealed that the bilingual Hispanic students performed as well in L2 reading as the control group that was immersed in English. Lombardo (1979) examined Italian bilingual Ss in the Boston area and found them to be performing below the reading levels in English and Italian in relation to their monolingual Italian counterparts of Italy and their English counterparts of Boston.

The reason that these L1 and L2 studies of bilingual programs are inconsistent is that in most cases the reports involved observational rather than experimental data; Ss may not necessarily have attained the "threshhold level" Cummins (1977) in L1 and L2; Ss may not have received equal amounts of instructional time in L1 and L2; and Ss may have had dialectal problems (Lombardo, 1979).

In addition to the studies dealing with simultaneous instruction of L1 and L2, researchers have compared whether one methodology is better than another (L1 + L2 vs. L1→ L2 vs. L2→L1). Barik and Swain, (1974), compared English control Ss who were instructed in English with English Ss, who were instructed in L1 and L2 simultaneously. The latter group had better results at the end of grade 3, possibly because skills were transferred from one language to the other.

Cowan and Zoreh (1967) in Tehran, Iran compared Persian and English Ss who received L1 and L2 simultaneous instruction; with all L2 (English) and L1 (Persian) taught as a subject of instruction (L2→L1) with monolingual control groups (English and Persian). The latter monolingual groups performed better in reading than the bilingual group. The reason may have been that the oral Persian languange has no relation to Persian print and also skills taught in English did not transfer into Persian.

In Canada, Cziko (1976) compared two L2 to L1 groups (French students immersed in English for several years with the later introduction of French as a subject and vice versa for English students) with monolingual English and French counterparts. Results in reading achievement found the groups to be equal, with the students immersed in L2 (English) and then taught French as a subject performing slightly better than all French group.

Based on all the mentioned studies there is no clear cut evidence that one method is significantly better than another for language (reading) instruction. Although the L1→L2 studies tend to indicate that initial native language instruction with later transfer to (L2) produced more positive results, it is difficult to attribute success to the L1 factor alone because Ss did not receive all L1 instruction in the United States since such a program is not fundable in the U.S. (Andersson and Boyer, 1970). Along with L1, Ss received L2 oral/aural instruction and in many cases L2 was the medium of instruction for

content areas. Thus, the Ss continually received (L2) instruction. The contributing factors then may have been acceptance of the Ss's native language in the school; the reinforced self-concept and attitude toward L1 and L2 thus, motivating the Ss to achieve.

Other L1→L2 studies were not clear about their experimental designs -- the procedures for L1 and L2 instruction and how language performance (reading) was assessed. Others did not administer tests at all, but reported observations "transition seemed natural" (Hillerich and Thorn, 1969). Others reported a reduction of drop-out rates as an indication that the L1 to L2 approach was better (Vasquez-Berrera, 1953; Burns D., 1968; Burns N., 1970).

Other results were inconclusive and others found that subjects in L1→L2 did as well as (L1) subjects, who were immersed in L2 (Pryor, 1968; Engles, 1975).

In light of the results from research studies (Appendix) it is deemed necessary that further research be conducted with firm control of variables in order to indicate that one method may in fact be superior to another.

The variables to be controlled would have to be home languages whether Ss are from monolingual homes (majority of cited studies); from dialectal home languages (USAID, 1967; Bradley, 1970; Lombardo, 1979) or from bilingual homes (Cowan and Zoreh, 1976).

The next factor would have to be SES background since this seemed to be the factor that influenced IQ and verbal ability.

Also this was one of the distinguishing variables that accounted for the success of immersion programs, with Ss of middle or upper SES performing better in bilingual programs (Davis, 1967; Lambert, 1972; Cowan and Zoreh, 1967, Cziko, 1976).

Parental attitude, although examined in the St. Lambert (Peal and Lambert, 1962) study, was not taken into consideration in the majority of studies. The findings of most studies indicated that parents from middle to upper SES groups had a higher regard for L1 and L2 in most cases, thus possibly affecting the students' attitude toward L1 and L2.

The school language is another important variable only in so far as it is congruent or incongruent to the Ss's home language. This can occur naturally or the situation can be created. In most cases, school programs are predetermined by legislation and educators. However, in cases (Peal and Lambert, 1962) that parents expressed their wish (Colombani, 1977) for a particular program type they tended to be more supportive and as a result Ss were more receptive.

Another factor is the child's self-concept. If his home language is accepted by teachers in the school then he develops a positive self-concept and thus normal achievement occurs (Modiano, 1968). In the case that Ss's native language is rejected and they do not have the hope of returning to the native language then a negative self-concept develops and subjects drop-out of school.

The child's attitude toward L1 and L2 should also be a variable

measured before and after a bilingual program (Lambert and Tucker, 1972).

The initial language in beginning reading instruction has an important effect as has already been discussed (Modiano, 1968; Barik and Swain, 1974)

The early medium of instruction is also an important factor because even Ss taught in L1 reading received L2 instruction through the content areas and this may have influenced their Ss's performance in L2. The early medium of instruction is also relevant in that Ss learn reading more readily in a language that has a regular phoneme/grapheme correspondence (Modiano, 1968) and can in most cases transfer these skills to English, as in the St. Lambert study.

The late medium of instruction is extremely crucial because Ss may react to the long range goal of a particular program as to whether L1 and/or L2 are/is to become the medium of instruction and treat the languages accordingly.

The community, its reality, and its ultimate wish (Colombani, 1977) is another intervening variable in the way a S reacts toward language (s). The paradox here is that although certain communities lend themselves to a maintenance program their wish may be transfer or assimilation into the L2 language and often times culture (Mackey, 1972). A conflict arises if a bilingual program does not enact the goals of the community. On the other hand, when the community reality and wish match as in the Canadian studies, then immersion seems to

function well.

Similarly to the community the factor of the nation's reality and wish must also be considered in the Canadian, Philippine and African studies. The goal of these nations was to maintain pluralism. Yet in the United States where pluralism exists the goals of many bilingual programs as in Massachusetts, tend to be transitional to mainstreaming Ss into an all L2 curriculum with the native language used only as a stepping stone, to be left behind.

The wish of the nation, of course, determines the status of Ss's L1 and as Bowen (1969) has indicated in the United States the low status of L1 may explain the "limited performance of minority language students", p. 115. Also in cases of L1→L2, L1 tended to have a low status and thus it was necessary for the students to be accepted and receive L1 instruction whereas in the L2 immersion where L1 was prestigious Ss performed well in L2 and transferred skills easily to L1.

In addition to the mentioned variables other factors that influence L1 and L2 reading performance are: age (Lennenberg (1967) speaks of a critical period for language acquisition); IQ (Lambert and Peal, 1977); educational setting and language acquisition (Lambert, Havelka, Crosby, 1958); and the variables of motivation (Gardner and Lambert, 1959).

To conclude the following statement summarizes the issue, "The choice (of language of instruction) is determined not by linguistic factors, but by social and practical considerations made possible by

bilingual populations, the availability of teachers and materials and encouragement in the form of support by government bodies." (Bowen, 1969; p. 117).

Although empirically further evidence is needed in support of one method over another from a reading educator's point of view it seems logical to begin initial reading in L1 since all the student must learn is the strategy of cracking a written code and matching it to his already existing oral code.

APPENDIX

Compilation of Studies on the Reading Alternatives for Bilingual Students

(L1 → L2)

(L2 → L1; L2 immersion)

(L1 + L2)

(L1→L2) vs. (L2→L1) vs (L1 + L2)

L_1 ($L_1 \rightarrow L_2$)

Study	Location	Subjects S_s	Languages	Method	Results
Arnold (1968)	Harlandale Independent School District, San Antonio, Texas	735 Hispanic 1st graders	Spanish (L_1) English (L_2)	C [a] immersed in L_2 E_1 [b] received Oral L_2 (language arts in L_1) E_2 received Oral L_1 E_3 received regular L_2 without oral L_2 (Language arts in L_1)	The E_1 group receiving oral L_2 instruction surpassed the other groups.
Burns, D.(1968) Burns, N.(1970)	Peruvian Highlands	Indian primary graders	Quechua Indian (L_1) Spanish (L_2)	C Group-received all instruction in L_2 E Group-learned to read and write L_1 and began oral L_2; during the second year, as fluent readers of L_1, they learned to read and write fluently L_2 a transition to all L_2.	There was a reduction of dropouts.
Castro de la Fuente (1961)	Mexico	Indian primary graders	Indian (L_1) Spanish(L_2)	C Group-received all L_2 instruction. E Group-received reading and writing instruction in L_1. Note: a - Control Group b - Experimental Group	Successful - The E group performed better than the C group.

Study	Location	Subjects S_s	Languages	Method	Results
Dube and Hebert (1975)	Madawaska, Maine	1st and 2nd graders Matched for SES and intelligence	French (L_1) English (L_2)	C Group - received all instruction in L_2 E Group - received 1/3 of the elementary curriculum in L_1	After 5 years, the E group outperformed the C group in L_2 language skills, academic content (math) and grade placement levels.
Ehrlich (1971)	New York City	43 Hispanic 2nd graders	Spanish (L_1) English (L_2)	S_s were tested with the Inter-American Series in (L_1 and L_2) for vocabulary and comprehension. C Group-received L_2 instruction. E Group began with L_1 reading 50% of the day and L_2 50% of the day.	(1) The E group (English and Spanish) did better on the English version of the test than the C group (2) E group performed better in L_2 than L_1.
Hillerich and Thorn (1969)	Corpus Christi, Texas	300 Mexican-American 1st graders	Mexican (L_1) English (L_2)	C Group-received all instruction in L_2 E Group-received reading in L_1 and oral-aural work in L_2	Inconclusive results. After one year of instruction, the E children were capable of reading in L_1 and the transition to L_2 appeared natural.

Study	Location	Subjects S_s	Languages	Method	Results
Golub (1978)	Pennsylvania	200 - 1st to 3rd graders	Spanish (L_1) English (L_2)	In the first grade, children were instructed in reading L_1 for about four to six weeks before L_2 reading instruction was started. Then there was simultaneous L_1 and L_2 reading until grade three when 70% of the reading was in L_2. At the primary level grades 1-3 children perceived the need to learn to read English and this made itself apparent through reading achievement in L_2.	Grades 1-3 Aural-oral comprehension in L_1 correlated with L_1 reading at $P < .05$ level Grades 4-6 Aural-oral comprehension in L_2 correlated with writing in L_2 and in L_1. Grades 7-9 Aural-oral comprehension in L_1 correlated with reading in L_2 and reading in L_1. Aural-oral ability always correlated with reading in that language (L_1). Although all spoke better, many of them read and wrote L_2 better than L_1.

Study	Location	Subjects S_s	Languages	Method	Results
Inclán (1971)	Dade County Florida	Cuban and Anglo Kindergarten to 12th graders	Spanish (L_1) English (L_2)	C - immersed in L_2 E_1- (Anglos) received 50% of instruction in L_1 and 50% in L_2 E_2-(Cubans) received 50% of instruction in L_1 and 50% in L_2	Successful All S_s performed equally well.
John and Horner(1971)	Harlandale Independent School District San Antonio, Texas	735 Mexican-American 1st graders	Spanish (L_1) English (L_2)	C- immersed in L_2 E_1- received oral L_2 instruction. E_2- received oral L_1 instruction	The E group performed as well as the control group in L_2 language skills and superior in measures of socialization and adjustment.
Modiano (1968)	Chiapas, Mexico	Indian Kindergarten to 3rd graders	Indian (L_1) Spanish (L_2)	C-all L_2 instruction. E-was introduced to reading L_1 and later transferred to L_2. At the end of the third grade, two instruments, a reading comprehension test and a teacher questionnaire were used to assess the L_2 reading comprehension average of each group.	S_s introduced to reading in the native language first scored significantly higher than those children taught in L_2 only.

Study	Location	Subjects S_s	Languages	Method	Results
Orata (1953)	Philippines	Filipinos- Ist to 3rd graders	Tagalog (L_1) English (L_2)	C Group- received all instruction in L_2. E Group- received all instruction in L_1 for 2 years and switched to L_2 in the third year.	The E group showed noticeable superiority in achievement during the first 2 years when they were tested in L_1 and the C group was teste in L_2. In the third year, when both groups were tested in L_2, the E group was still higher but not significantly.
Pryor (1968)	Harlandale Independent School District San Antonio, Texas	Mexican- American 1st and 2nd graders	Spanish (L_1) English (L_2)	C Group-received all instruction in L_2 E Group-received instruction in L_1 and L_2.	At the end of the 1st and 2nd grades, the E group did not do better or worse than the C group.
Ratto (1955)	Peruvian Highlands	Indian 1st and 2nd graders	Indian (L_1) Spanish(L_2)	C Group-received all instruction in L_2 E Group-taught to read and write in L_1 and began oral L_2 in grades 1 and 2. In grades 3 to 6,Ss were introduced to an all L_2 curriculum.	Successful- the E group performed better than C group.

Study	Location	Subjects S_a	Languages	Method	Results
Rosier Farella (1976)	Rock Point, Arizona	40 Navajo Indian 2nd to 5th graders	Navajo (L_1) English (L_2)	C- received all instruction in L_2 E- received reading readiness in L_1 and then reading in L_2 until grade 3 when L_1 was taught as a subject.	Both groups were administered the Stanford Achievement test. In relationship to national norms, the C group did 2. years below average and the E group did .5 years below average.
Taylor (1969)	Harlandale Independent School District San Antonio, Texas	Mexican-American 4th and 5th graders	Spanish (L_1) English (L_2)	C- immersed in L_2 E_1-oral L_2 E_2- oral L_1	Sucessful E_2 group performed better than the other two group
USAID (1967)	South Vietnam	South Vietnamese 1st to 3rd graders	Highland language (L_1) Vietnamese (L_2)	C-received all instruction in L_2. E-learned to read and write in L_1 in grades 1 and 2, and transferred to L_2 in grade 3.	Inconclusive results. There was increased enrollment after the test.
Vasquez Barrera (1953)	Mexico	Indian primary grade students	Indian (L_1) Spanish (L_2)	C- received all instruction in L_2, E-received reading and writing instruction in L_1.	Successful.

Study	Location	Subjects S_s	Languages	Method	Results
Wise (1969)	Peruvian Highlands	Indian 1st and 2nd graders	Indian (L_1) Spanish (L_2)	C Group-received all instruction in L_2. E Group-taught to read and write in L_1 and began oral L_2 in grades 1 and 2. In grades 3 to 6 presented with all L_2 curriculum.	Sucessful The E group performed better than the C group.

L_1 ($L_2 \rightarrow L_1$)

Study	Location	Subjects S_s	Languages	Method	Results
Barik Swain and Mc Tavish (1974)	Allenby French Program, Toronto, Canada.	English speaking 1st and 2nd graders	English (L_1) French (L_2)	C- received all instruction in L_1 E- immersed into a L_2 program up to grade 2 and then L_1 taught for an hour a day.	At the end of the 1st grade, E group performed lower than C group.
Bezanson and Hawkes (1976)	Ghana, Africa	198 boys and 128 girls, Ghanian sixth graders	Fante (L_1) English (L_2)	C-received all instruction in L_2. E-were taught reading in L_1 and then L_2.	The children did not acquire a superior ability in reading L_1. Note: Most of the materials in Ghana are in L_2

Study	Location	Subjects S_s	Languages	Method	Results
Cohen (1974)	Culver City, California	15 Anglo students (E)	English (L_1) Spanish (L_2)	C_1 - Anglo students received L_1 instruction C_2- Spanish students received L_2 instruction E_1- received all L_2 instruction from kindergarten to 2nd grade.	Successful The E group performed better in reading than either C group.
Davis (1967)	Philippines	Filipino 1st to 3rd graders	Tagalog (L_1) English (L_2)	E_1 Group-received all instruction in L_2. E_2 Group-received initial instruction in L_1 and transferred to L_2 in Grade 3. E_3 Group-received initial instruction in L_1 and transferred to L_2 in Grade 5.	Successful The successful E_1 performed better than all the other groups. The E_2 group performed better than the E_3 group.

Study	Location	Subjects S_s	Languages	Method	Results
Department of Education, Manila (1953)	Manila, Philippines	Filipino 1st to 3rd graders	Tagalog (L_1) English (L_2)	E_1 Group-received all instruction in L_2 E_2 Group-received initial instruction in L_2 and transferred to L_1 in Grade 3.	The E_2 group scored much higher in reading and language than the E_1 group.
Lambert and Tucker (1972)	St. Lambert, Quebec, Canada	100 English speaking kindergarten to 4th graders	English (L_1) French (L_2)	C_1 Group-received all instruction in L_1 C_2 Group-received all instruction in L_2 E Group- immersed into L_2. All L_2 until grade 2 when L_1 was introduced as language arts.	In general achievement, the E group performed better than the other groups. In L_1 the E group performed better than the C_1 group.
Mac Namara (1966)	Ireland	Irish primary graders	Irish (L_1) English (L_2)	C_1- received all instruction in L_1 C_2- received all instruction in L_2 E- received initial instruction in L_2, then transferred to L_1.	The E group performed better than all the other groups.

Study	Location	Subjects S_s	Languages	Method	Results
Revil et. al. (1968)	Philippines	Filipino 1st to 3rd graders	Tagalog (L_1) English (L_2)	C Group-received all instruction in L_2. E Group-received initial instruction in L_1 and transferred to L_2 in grade 3.	The three groups were examined at the end of the 8th grade. Their proficiency in L_2 was related to the number of years it had been used in instruction. The C group performed better in all content areas including Pilipino grammar.
Strum (1976)	New York, New York	1,243 dropout high school students 1,063 - Spanish 100 - French 56 - Italian 24 - Chinese	Dominant Language (L_1) English (L_2)	Students were pre and post tested in L_1, the dominant language and math (through use of the dominant language.) Then, after 4 months of instruction which focused on ESL and L_1 reading skills, the students were post tested.	Results were: (1) significant gain in L_2 reading. (2) improvement in L_2 speaking. (3) significant gain in the native language reading. (4) math scores improved (5) 80% of the Hispanic students passed the (HSE), High School Equivalency Test.

L_1 ($L_2 \rightarrow L_2$) (oral)

Study	Location	Subjects S_s	Languages	Method	Results
Bradley (1976)	Lafayette Parish Louisiana	50 4th grade Negro children of a French linguistic background	Acadian French (L_1) English (L_2)	The following tests were administered to the subjects: (1) OU-Jameson Test of Spoken English (2) Michael Test of Oral Language Production (3) Gloria and David Oral Language Proficiency (4) Gawey-McFarlene Test of Standard English Proficiency. (5) The Urban Language study and material Development Project.	(1) There was significant correlation between phonology and verbal ability, fluency and verbal ability at $P < .05$ level.
Carline and Hoffman (1976)	Colorado Department of Education, Colorado	500 children ages 5-17 of migrant workers	Spanish (L_1) English (L_2)	C-received reading instruction in a method selected by the teacher. E-received instruction with the language experience approach	(1) Students who read well in L_1 or L_2 tended to read well in the other language (2) Students who attended most were the ones who had L_1 teachers and aides and did well on L_1 reading. (3) Younger children made greater gains in reading with the language experience approach.

Study	Location	Subjects S_s	Languages	Method	Results
Deosaran and Gersham (1976)	Toronto Board of Education , Canada	130 Chinese 1st to 6th graders	Chinese (L_1) English (L_2)	An attitudinal questionnaire type survey was administered to students, teachers, parents. Program Characteristics : ½ hour daily cultural/language experience class, students were 90% Chinese, some were non-Chinese	Parents were most positiv toward the program. Students thought it was ok.but the older students were bored. Teachers were critical about the content, structure and teaching methodology. Students thought there were little carry over from Chinese class to outside classes. The Program did not compare similarities and differences between Chinese and Canadian cultures;it only talked about old Chinese culture, not modern life.
Pauck (1968)	Texas	Mexican-American 1st graders	Spanish (L_1) English (L_2)	Administered OTT Jameson self test to measure English oral fluency and the Metropolitan Achievement Test.	High L_2 oral language ability correlated wit high L_2 reading abilit

L_1 (L_1 + L_2)

Study	Location	Subjects S_s	Languages	Method	Results
Cohen (1974)	Redwood City, California	Group I - 90 Mexican-Americans Group II 23 Anglo - 1st to 3rd graders	Group I Spanish (L_1) English (L_2) Group II English (L_1) Spanish (L_2)	C-received all instruction in L_2 E-received L_1 and L_2 instruction in all subjects on an alternate day basis.	Inconclusive results The E group did better in math.
Goodman and Stern (1971)	Compton, California	299 (80% are Spanish dominant)kindergarten to 2nd graders	Spanish (L_1) English (L2)	C Group-received all instruction in L_2. E Group-received 80 minutes L_1 as the medium of instruction and L_2 every day.	The E group performed better in L_1 reading ability and L_2 oral language than the C group.
Hartwig (1971)	Sacramento, California	402 (60% Hispanic, 40% Anglo) kindergarten to 3rd graders	Spanish (L_1) English (L_2)	C Group-received all instruction in L_2 E Group-received L_1 and L_2 languages were alternated for language arts, social studies and math.	The E group performed equally as the C group in L_2 reading.

Study	Location	Subjects S_s	Languages	Method	Results
Lombardo (1979)	Boston, Mass.	45 S_s 15 S_s from Perugia, Italy 15 Italian-Americans 15 Anglos in Boston	Italian dialect, Italian standard (L_1) English (L_2)	C_1- all instruction in standard Italian (Italy). C_2- all instruction in English (U.S.) E-all instruction in Italian & English (U.S.). S_s tested with measures for reading and IQ in both languages.	The monolinguals(C_1 & C_2 performed higher in reading and measures of IQ than the bilingual (E group)
Mackey (1972)	J.F.K. School, Berlin, Germany	680 1st to 12th graders	German (L_1) English(L_2)	All students who were from German and English homes were instructed in both languages in all subjects at all times with the exception of reading which was initially taught in L_1.	Inconclusive. (1) Achievement was not retarded. (2) Rate of teaching was slower.
Malherbe (1946)	South Africa	4,736 Ss from unilingual Afrikaan homes 6,044 Ss from unilingual English homes 7,993 Ss from bilingual homes	Afrikaans (L_1) English (L_2)	C_1-from Afrikaans homes received all instruction in L_1 C_2-from English homes received all instruction in L_2 E_1 (from unilingual Afrikaans homes received all instructions in L_1 and L_2 E_2 (from unilingual English homes)	(1) Children in bilingual schools surpassed those in unilingual schools by 4/5 of a year in geography and half a year in mathematics.

(Continued from page 36)

Study	Location	Subjects S_s	Languages	Method	Results
				received all instruction in L_2 E_3 (from bilingual homes) received all instruction in both languages.	(2) Bilingually-schooled children from unilingual English homes performed as well as the C group in L_2 and made one year's progress in L_1 over the L_2 unilingually schooled group. (3) Finally, bilingually schooled children from bilingual homes achieved the greatest degree of bilingualism in L_2 and L_1
San Francisco United School District (1974)	San Francisco, California	360 (40% Chinese, 60%-non-Chinese) Kindergarten to 6th graders	Chinese (L_1) English (L_2)	E_1-from Chinese homes received 50% L_1 and 50% L_2 instruction. Languages alternated every day. E_2-from non-Chinese homes received 50% L_1 and 50% L_2 instruction. Languages alternated every day.	Inconclusive
Trevino (1968)	Webb County, Texas	87 Mexican-Americans 96 Anglo 1st and 2nd graders	Spanish (L_1) English (L_2)	C_1 (from Anglo homes) received all instruction in L_2. C_2 (from Spanish homes) received all instruction in L_1 and was later immersed in L_2.	

(continued from 37)

Study	Location	Subjects S_s	Languages	Method	Results
				E_1 (from Anglo homes)-received 50% L_2 and 50% L_1 instruction. E_2 (from Spanish homes)-received 50% L_2 and 50% L_1 instruction. For bilingual instruction the students were taught the content area subjects in one language in the morning and in the other in the afternoon.	Successful The E groups performed better than the C groups.

Comparisons L_1 (L_1--L_2) vs L_1(L_2 --L_2)

Study	Location	Subjects S_s	Languages	Method	Results
Barik and Swain (1974)	St. Thomas, Canada	1st to 3rd graders	English (L_1) French (L_2)	E_1 In the morning mathematics, music and language were taught in L_2. In the afternoon L_1, language Arts and physical Education were taught in L_1. E_2 taught all L_2 until grade 3, then English was introduced.	At the end of grade one, the E group performed as well as the C group. At the end of grade two, it scored lower; at the end of grade three, it performed as well. The implication may be that once students have learned to read in a language that has a regular phoneme/grapheme relationship, they can transfer these same skill in learning to read English. E_1 performed better than E_2.
Cowan and Zoreh(1976)	Tehran, Iran	235 Persian and English 1st, 3rd and 6th graders	Persian(L_1) English (L_2)	C_1-all Persian upper class received L_1. C_2- all Persian low class received L_1. C_3- received all L_2. E_1- 50-50 L_1 and L_2 E_2- All L_2 instruction except for 1 1/2 hours of L_1 every day.	Failure The English and Persian monolinguals performed better in reading than the bilinguals.

(continued from Comparison Page 39)

Study	Location	Subjects S_s	Languages	Method	Results
Cziko (1976)	South Shore Protestant Regional School Board, Canada	79 English Speaking Kindergarten to 4th graders	English (L_1) French (L_2)	(English Students) C_1-received all L_1 instruction C_2-(French students) received all L_2 instruction. E_1-received all L_2, then L_1 was introduced in language arts in grade 2. E_2-received all L_1 from grades 1 to 4, then received all L_2 instruction except for L_1 language arts instruction for 40 minutes a day.	All groups were equivalent in performance in L_1. However, in L_2, the C_2 surpassed the E_1 and E_2 groups in Reading.

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